The Island of Amorgos: Micro-scale & Macro-scale Remote Sensing.

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The island of Amorgos has become the target of micro-scale geophysical prospecting and macro-scale satellite remote sensing investigations. The goal of the project was the formulation of a general strategy for applying a wide spectrum of remote sensing techniques and integrating the corresponding results to the general framework of archaeological research.

The geophysical survey was conducted in two remote areas, accessible only by foot, a coastal Roman site and a hilly site dated from the Early Cycladic period. Magnetic and soil resistance surveys were carried out at the particular sites for mapping the subsurface relics. A systematic surface survey was applied on the same grids. The correlation of the geophysical maps and the surface sherd concentration has drawn specific results about the boundaries of the E.C. site. Geophysical surveying was also able to detect architectural remains of the Roman site, most of which are either covered completely by alluvium deposits, or are submerged within the sea due to the past seismic activity.

Aerial photographs were used for creating the aerial mosaic of the wider region. The geophysical grids were registered to the aerial images and both layers were superimposed on the DEM of the region. Two Landsat TM images were combined to produce the satellite mosaic of the whole island. Processing of the different bands was used for creating a number of thematic maps. The satellite image was also superimposed on the DEM of the whole island and other layers such as the digitized geological maps were added for producing a GIS. Digitization processes and Sub-centimetre accuracy Global Positioning Systems were used specifically for the registration of the known archaeological sites and Ground Truthing procedures of the environmental and cultural variables. Supervised classification techniques have been used for modelling the settlement patterns of the island.

The island of Amorgos has been used as a pilot study for the application of large and small scale investigations of the archaeological sites of Greece, proposing a model of archaeological site assessment and the creation of an electronic archaeological and monument record through the use of Geographic Information Systems.

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